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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/303,718	04/30/1999	RAMAN ARUNACHALAM	ARUNACHALAM1	8754

7590 06/05/2002  
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EXAMINER

YIN, LU

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/303,718

Applicant(s)

ARUNACHALAM ET AL.

Examiner

Lu Yin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 4, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Referring to claims 1, 2, and 11, the word “any” in the phrase “...processes said arrived packet in accordance with any quality of service requirement and flow specifications” render these claims indefinite. It is not clear what the processing is in accordance with.
4. Referring to claims 4 and 12, it is not clear what is meant by the word “propriety”.
5. Claims 3, 5-10 and 13-15 are rejected because they are based on indefinite independent claims.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined

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was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1, 5, and 11, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Partridge et al (Partridge) US Patent 6,160,811.

8. Referring to claim 1, Partridge discloses a router with an interface means for receiving a packet (see column 5, lines 21-22, "a packet is received and buffered at the line interface to-switch unit"), means for extracting routing information (lines 23-25, "TSU....abstracts the link layer data in the header"), memory means for storing said data information (lines 21-22, "a packet is received and buffered at the line interface to-switch unit"), means for processing header packet to determine a route (lines 29-32, "the forwarding engines....determines the output port for the packet's next hop") and assigning packet forwarding information to the header (see column 6, line 8, "update the header), and means for retrieving data from memory locations and forwarding said data header packets to interface (see column 5, lines 40-43, "the FSU receiving the packet....transmits it over the data link chosen for the next hop").

9. Referring to claim 11, the router cited in the rejection of claim 1 inherently includes the method of claim 11.

10. Referring to claim 5, Partridge discloses route look-up table for the router (see column 5, lines 29, "using perspective routing table").

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patridge in view of Haddock et al. (Haddock) US Patent 6,104,700.

13. Referring to claim 2, Patridge discloses a router as explained in the rejection of claim 1. Patridge does not specifically disclose having a scheduler in the system. However, Haddock discloses a routing system with a scheduler to ensure the quality of service and flow specifications are followed (see figure 1B, scheduler 170, QoS category evaluation 175). It would have been obvious to one of ordinary skills in the art to incorporate Haddock's QoS scheduler into Patridge's system because the QoS sheduler would make Patridge's system work more efficiently.

14. Referring to claim 16, Patridge discloses a router as explained in the rejection of claim 1. Patridge further discloses a processor for processing the packet record (see figure 3A, FSU page routing & multicast processing 165). Patridge does not specifically disclose having a scheduler in the system. However, Haddock discloses a routing system with a scheduler to ensure the quality of service and flow specifications are followed (see figure 1B, scheduler 170, QoS category evaluation 175). It would have been obvious to one of ordinary skills in the art to incorporate Haddock's QoS scheduler into Patridge's system because the QoS sheduler would make Patridge's system work more efficiently.

15. Claims 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patridge in view of Haddock further in view of Giroux et al. (Giroux) US Patent 6,317,416 B1).

16. Referring to claim 3, the router is cited in the rejection of claim 2. Patridge and Haddock do not teach that the scheduler should implement fair-queuing scheduling scheme. However, Giroux discloses scheduling using weighted fair-queuing (see figure 1, WFQ 3). It would have been obvious to one of ordinary skills in the art to incorporate Giroux's method into Patridge's system because weighted fair-queuing would make Patridge's system work more efficiently and avoid congestions.

17. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patridge.

18. Referring to claim 8, Patridge discloses a router as explained in the rejection of claim 1. Patridge does not specifically disclose that high speed buffer memory is used for buffer memory. However, the type of buffer memory being used is a matter of design choice. It would have been obvious to one of ordinary skills in the art to use high speed buffer memory in order to make the router work faster.

### ***Conclusion***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Rogers US Patent 6147991 discloses scalable high speed packet switch using packet diversion through dedicated channels.

b. Bass et al. US Patent Publication 2002/0023168 A1 disclose method and system for network processor scheduling based on service levels.

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- c. Want et al. US Patent Publication 2002/0039351 A1 disclose bandwidth sharing using emulated weighted fair queuing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lu Yin whose telephone number is 703/306-4821. The examiner can normally be reached on 9AM-6PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703/305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are 703/872-9314 for regular communications and 703/305-3988 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703/306-0377.

Lu Yin LY  
May 30, 2002



HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600